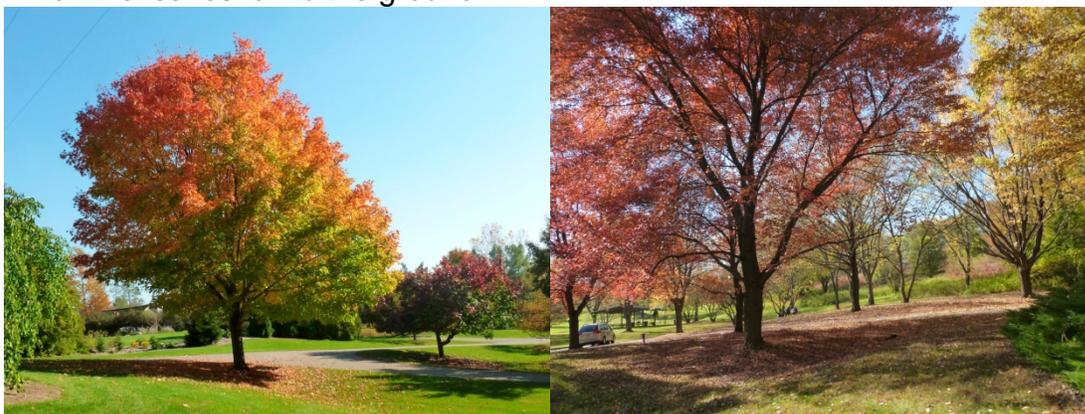


Here is a good explanation of the autumn color change provided to us by botanist Jaclyn Braund:

The dazzling display in the eastern deciduous forest each year begins when trees and shrubs respond to photoperiod, or day length, as well as a few other factors. Autumn senescence is simply a method for the tree to regain the last bit of nutrients that remain in the leaves from a season's worth of photosynthesis, and coincidentally show off vibrant colors in the process. A few of the major pigments within a leaf are chlorophyll (green), anthocyanins (red, purple to blue), carotenoids (red, orange to yellow) and tannins (brown). All are always present within the leaf, but are masked by chlorophyll. Once the days get shorter, new chlorophyll growth ceases, revealing the other pigments. Anthocyanins and carotenoids are able to extend the length of time the leaf can photosynthesize after chlorophyll has diminished because they can absorb a wider spectrum of colors to drive photosynthesis. Eventually, cold weather forces photosynthetic activity to end and reveals the final pigment, tannin, upon which the leaves fall to the ground.



Chlorophyll slowly fading away

anthocyanins (reds) and carotenoids (yellow)

The process of fall foliage isn't a debate between scientists, but why it has evolved to such brilliant intensity has caused disagreement. One leading theory suggests the coloration of the leaves act as a signal to potential pests. The trees that are the brightest are able to pour the most energy into their coloration and can be considered the fittest individuals. Studies have suggested that aphids, whom are a natural enemy to trees, have a field of vision that can only see the trees with dull coloration, or weaker trees, and the brightest trees are out of their field of vision. These studies have shown that aphids tend to lay eggs on trees with dull coloration, and the fittest, brightest trees stay mostly pest-free. Regardless of the evolutionary reason, the beautiful colors of autumn are a wonderful time of year to enjoy Pennsylvania's forests.



Anthocyanins in blackgum

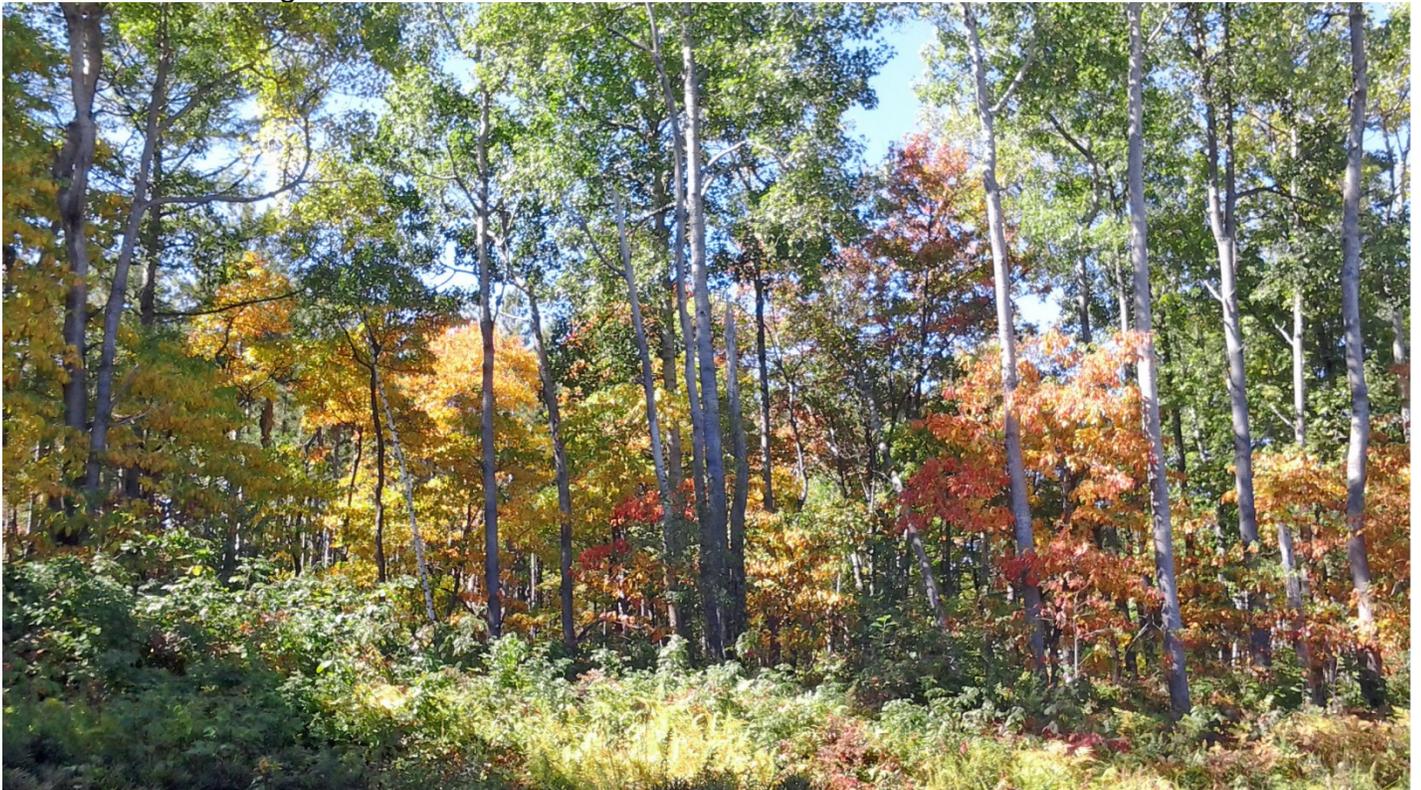
NORTHERN ZONE

Signs of fall are starting to quickly show up here in Northern Zone. Along with the tree species listed last week, more species have started the process changing color. Black cherry, white ash, birch species, striped maple, and some sugar maple have turned yellow. Some sugar maples have become a brilliant hew of yellow and are a sight to see. The red maples are showing beautiful reds throughout the forest. The color change is still somewhat spotty throughout the region, but by the end of the week I believe most of the northern hardwood stands will be close to full color. The oak stands will most likely remain green until mid to late October.

The lookouts along the Pine Creek Gorge Natural Area are some of the best places to view at the moment. The eastern portion of our forest near the town of Arnot, and the Armenia Mountain area appear to be changing quicker than anywhere else in the area. Lambs Look-out on Armenia Mountain would be a choice location for a fall viewing stop. Also, a drive across Landrus Road from Morris to Arnot would be of interest at this time. The colors next week should be close to their best.

CENTRAL ZONE

The central region at the Pocono Mountains is starting to show some good fall foliage colors. The areas with northern hardwoods should be getting close to peak colors. Sassafras, sugar maple, red maple, birch, ash, cherry; and other vines, trees and shrubs are showing some significant color changes. The oak and hickory forest types still have a couple weeks till they hit their peak. A good place to view the foliage this week is around Tobyhanna State Park off of Route 423. The trees around the lake will be starting to show good colors with 90% of the leaves remaining on the trees.



Color developing in the Delaware State Forest in the eastern Central Zone

There are bursts of bright colors mixed in on the green hillsides in northwestern PA. The recent warm, sunny days and cooler nights have brought the onset of fall coloration to much of northwest Pennsylvania, albeit still in scattered patches. The brightest tree colors so far are displayed by the red and sugar maples combined with some dark red coloration of Virginia creeper vines. Much of the color can be seen along roadsides and field edges making a beautiful backdrop to the brightly blooming goldenrod fields. Farmer stands are open --- fall has arrived in Pennsylvania!!!



Virginia Creeper in Erie

LAUREL HIGHLANDS

This area in southwest PA is crossed by Route 30 and 31, Interstate 40, and the Pennsylvania Turnpike. From these roads a great deal of the Laurel Highlands can be accessed.

This includes the highest ground in the state – the Mt. Davis area is turning more, still lots of green foliage; black gum is almost at peak, while the birch and maples are beginning to yellow more progressively. Peak may occur within a week to a week and a half.

The Laurel Ridge and the Laurel Mountain area are gradually becoming more colorful. The black gums are finally beginning to change into their red/purplish hues. Birch, cherry, and red/sugar maples are beginning to yellow very gradually.

The southwest corner of PA - Greene, Washington and Fayette counties, and the Chestnut Ridge areas are very slightly changing, still mostly green. A few maples, cherry, poplar are beginning to change color.

SOUTHERN REGION

This is the area south and east of a line from just south of the Poconos to the Laurel Highlands.



Hillside colors from Schuylkill County



Linden turning gold on the Capitol Grounds

The William Penn Forest District, in particular, Northampton and Lehigh counties, is still very green. The only noticeable foliage change has taken place on the smaller Maple and Birch trees at the very northern end of the district along the ridges of the Blue Mountain Range. These colors can be observed along Mountain Road and Route 33, but will still need another week or two to really make their presence felt.

Crossing the areas of higher elevation throughout this region will have some elements of fall coming to life but we have a week or two to go for the big show. This is a lot of area inasmuch as the Southern Fall Foliage region encompasses the Ridge and Valley and the South Mountain ecoregions of Pennsylvania.